To: Speth, Thomas[Speth.Thomas@epa.gov]; Morgan, Ardra[Morgan.Ardra@epa.gov]; Garland,

Jay[Garland.Jay@epa.gov] **From:** Nye, Michael

Sent: Wed 6/28/2017 1:51:37 PM

Subject: RE: Water from air

So my quick research suggests that Water-Gen, an Israeli company, is the only COTS solution that has been tested by the Army. I don't know what make the TARDEC system is.

ARPA-e is funding research in this area. But unless they have gone coop or CREDA that won't save us time. http://news.mit.edu/2017/MOF-device-harvests-fresh-water-from-air-0414

INL does have an interest in this - and we have an IA with them that covers water security and infrastructure resilience (Project 5 – Water Security Infrastructure Resilience). A. Gillespie is the point person. I think the plan is for me to take over managing all of the IA project at some point with Andy providing steer.

http://www4vip.inl.gov/research/water-technology-innovation-program/

Michael B. Nye PhD Net Zero Program Manager National Exposure Research Laboratory EPA Region 8 - Denver US Environmental Protection Agency T: 303 312 6986

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----Original Message-----From: Nye, Michael

Sent: Wednesday, June 28, 2017 7:27 AM

To: Speth, Thomas <Speth.Thomas@epa.gov>; Morgan, Ardra (Morgan.Ardra@epa.gov)

<Morgan.Ardra@epa.gov>; Garland, Jay <Garland.Jay@epa.gov>

Subject: FW: Water from air

This is what I got back from Marc. See attached in particular. Shall I reach out to Lateefah? There are also some other links here which I have not explored in depth yet - seems like these were one-offs.

Michael B. Nye PhD
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----Original Message----

From: Kodack, Marc D CIV USARMY HQDA ASA IEE (US) [mailto:marc.d.kodack.civ@mail.mil]

Sent: Wednesday, June 28, 2017 6:40 AM To: Nye, Michael <nye.michael@epa.gov>

Subject: RE: Water from air

Mike.

TARDEC had a demonstration program called the Sustainability Logistics Basing Science and Technology Objective Demonstration. One of the technologies that was examined as part of that program was the Modular Force Water Generation Storage and Analysis system (see attached). I am not sure if it is now a system-of-record which means it is in the Army's permanent equipment inventory. The POC is Lateefah Brooks. Her current contact information is at the end of the attached system description.

Here are three recent news articles on a commercial water-from-air system that was demonstrated as part of an Indiana National Guard earthquake response exercise, http://www.jpost.com/Business-and-Innovation/Tech/US-Army-drill-uses-Israeli-tech-to-extract-water-from-air-at-disaster-sites-490801, http://www.americanisraelite.com/news/national_news/article_03bcdaa0-3a5b-11e7-98ae-4fb7ec6f4de0.html, and http://www.jewishpress.com/news/breaking-news/israeli-company-generates-water-from-air-participates-in-us-army-drill/2017/05/15/ The 38th Sustainment Brigade, https://in.ng.mil/AboutUs/Organization.aspx, may be the unit that was involved in the earthquake exercise among others. COL Kimberly Martindale is the Commander, 317-916-5402. Here are older articles on Water-Gen, http://time.com/75612/atmospheric-water-generator-watergen/ and http://www.cnn.com/2014/04/24/tech/innovation/machine-makes-drinking-water-from-air/index.html.

Water-from-exhaust, http://www.military.com/NewsContent/0,13319,78169,00.html. Jay Dusenbury is quoted.

There are also water-from-air technologies that use solar rather than fuel/electricity, http://www.sciencemag.org/news/2017/04/new-solar-powered-device-can-pull-water-straight-desert-air, http://solarcoldbox.com/solarwatermaker, and http://suntowater.com/.

Marc

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----Original Message-----

From: Nye, Michael [mailto:nye.michael@epa.gov]

Sent: Tuesday, June 27, 2017 4:27 PM

To: Kodack, Marc D CIV USARMY HQDA ASA IEE (US) <marc.d.kodack.civ@mail.mil>

Subject: [Non-DoD Source] Water from air

Hi Marc

Per my voicemail - Administrator Pruitt has expressed in interest in ORD/EPA pursuing research on airwater condensate technologies. Emphasis on improving efficiency as well as reducing microbial risk. Near term plans are for (further) evaluation of existing, commercial ready products along these lines. If we can get hold of or access to something that the Army or DoD is already using, it will save us lots of time vs writing CREDAs. And then it can also go under the Net Zero banner.

It seems that you made connections between Ardra and TARDEC/ Jay Dusenbury a few years back, and that there was some interest on behalf of TARDEC in this subject. Do you know if that is still going on, or if there is research on this subject elsewhere within The Army? As I said in my VM, I think some of our people are reaching out to Jay directly, but as this is an Administrator priority, I wanted to get your perspective too since you might be aware of things he is not. Happy to chat further on the phone if that is more convenient.

All best

<Mike

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